PROJECTIONS AND THEIR POLICY IMPLICATIONS

Metropolitan Toronto Planning Department
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SECTION 1

INTRODUCTION

Purpose

Metropolitan Toronto's population in 1986 was 2,192,000 according to the Census. Projections of future growth and change of the urban structure are required by governments to provide criteria for evaluating the future demand for transportation, housing, hard services, human services and environmental standards which governments provide to the community. An evaluation of a range of projections permits programs and policies to be developed that are capable of satisfying the preferred scenario as well as estimating the financial implications of alternative scenarios.

This preliminary report is being produced to respond to the need for periodic review of changes in urban structure and utilizes the patterns of change revealed by the 1986 Census of Canada and other statistical data available from federal and provincial statistical sources. While a forty-five year projection period has been used to satisfy refuse disposal planning needs, this preliminary report uses a projection period to the year 2011 to satisfy the time horizon being used in the Metropolitan Plan Review Program.

This projection series, however, is departing significantly from previous reports because it considers what actions of government and the private sector would be necessary to achieve a population target significantly higher than existing trends would suggest. The reasons for setting a strategic population target higher than would normally be the anticipated case was to achieve several goals among them the following:

- A more compact urban structure through significant residential redevelopment thereby better using existing infrastructure services;
- A minimization of length and duration of Journey to Work trips by increasing the labour pool closer to where significant growth of employment is occurring;
- A reduction in the rate of absorption of agricultural land and other environmental resources required to satisfy the growth pressures of a very healthy economy in Greater Toronto Region.

Areal Extent

The comprehensive projection report to be released this May is for Canada, Ontario, the Six Regions, Metropolitan Region and Metropolitan Toronto, with some limited data on the individual external regions and municipalities in Metropolitan Toronto. This preliminary report omits data on Canada and Ontario and uses the shorter time horizon of 2011 required for Metropolitan Plan Review Program.

Scope

The projections essentially deal with the following three different types of data required to provide the necessary information to infrastructure servicing agencies:

(1) Population, Labour Force, Households and Housing by Residence Location;

(2) Employment by Place of Work Location;

(3) Day Time Population.

Transportation Planning requires the first two types of data to simulate Journey to Work trips.

Other servicing Agencies may find the numbers that most critically affect their design criteria is the Day Time Population and in this regard Metropolitan Toronto will show significant total numbers of Day Time Population in relation to the Surrounding Regions.

Provincial and Regional Participation

The Regional Planning Commissioners of Ontario established a Task Force on Provincial Population Projections to co-operate with the Ontario Ministry of Treasury and Economics' Demographics and Social and Economics Branch in order to produce sub provincial population projections. The project is being co-ordinated by the "Greater Toronto Co-ordinating Committee" who have given special emphasis to arriving at a consensus on population projections for the Regions of Durham, York, Peel, Halton and Metropolitan Toronto, whose boundaries define the Greater Toronto Region.

Later this month a set of population projection ranges for each of the regions will be submitted to the Regional Planning Commissioners who will be reporting these results to their regional councils. The Regional Planning staff, including representatives from Metropolitan Toronto, have been advised of basic assumptions input into the Provincial model. Unresolved are issues of the costs of servicing the infrastructure necessary to accommodate projected growth. The Task Force has proposed undertaking studies to assess the public costs of infrastructure spending so that the implications on population and employment growth can be properly assessed.

Description of the Models

The Metropolitan Planning Department has developed five computer models in-house in order to simulate alternative growth scenarios. The first model is being used by Peel and Hamilton-Wentworth Regions in their demographic studies, and is similar to the Provincial demographic model.

Model No. 1 - The Demographic Model

The demographic model has three components and is used for projections for Canada, Ontario, Six Regions, Five Regions and Metropolitan Toronto. Various alternative scenarios are simulated of the demands creating growth.

. The first component projects population by single years of age under 1 to 84 and 85 plus by sex and total, on a year by year basis, for a selected projection period. The input is base population and variable fertility, survival and net migrant rates.

. The second component projects labour force by age groups and sex and population; family, family households and non family by age groups and six marital status categories. Size of families, family households and non family households are also projected. The population age groups projected by the first component of the model and assumed participation rates for the categories of data projected in the second component activate this component of the model.

. The third component projects housing by structural type to satisfy the household demand indicated by the second component. Input variables are assumptions on various mixes of completions by housing type, stock losses through demolitions combined with conversion changes, and vacancy rates.

Model No. 2 - Journey to Work

The Census question on the comprehensive form on where household member works permits a matrix to be constructed by region showing how many of the employed labour force in each region works in that region and all other regions. The model uses the labour force projections in the second component of Model No. 1 and the analysis of trends of employed labour force distribution components by region to project the inter-regional cross boundary movements and the employment by region for selected horizon years.

Model No. 3 - Employment by Type

The department's annual employment survey provides data on the changing distribution of employment by type (full time and part time) and category (office, manufacturing, retail, service, etc.) by municipality. Trends in employment distribution by type, category, establishment size and share each municipality captures is applied to the projected employment for Metropolitan Toronto for selected horizon years in Model No. 2 to produce distribution of employment by municipality by type, category and number of establishments.

Model No. 4 - Land Use Projections

This model is based on the site development potential in each of 800 traffic zones in the Metropolitan Region for selected horizon years and has three components. This model simulates the supply of housing and employment opportunities for the future population.

The first a Housing-Population component provides the characteristics of households by housing type and occupancy rate for a base year (usually the latest census year). Metro and Area municipal staff co-operate in assessing the development potential of each traffic zone in light of Zoning, Official Plans and development applications. Consideration is given to changing household size, demolitions and conversions and predicted future stock is used to generate population housed based on occupancy rate assumptions.

The second, a Population and Labour Force by Age Group Component of the Model uses the total population generated in the first sub-component to distribute; (a) population by age group based on demographic age composition trends, and (b) labour force by age group based on labour force participation rate trends.

The third, an Employment by Type and Category Component of Model, uses base year employment distribution provided by the Planning Department's Field Survey in Metropolitan Toronto. Metro and Area municipal staff again consider the development potential of each Traffic Zone and assign appropriate growth or decline of employment by type, category and establishment count for the selected horizon years. In the surrounding region we presently project only total employment unless comprehensive data is available from their surveys.

Model No. 5 - Day-Time Population

Some providers of infrastructure find that day-time population is the most useful guide to measure the demand for their services. The Planning department has responded by designing a model to estimate day-time population based on the following formula:

Day-Time Population = Total Resident Population -Employed Resident Labour Force + Employment + Residual Group.

The Residual Group as an area is made up of the following:

> Visiting Population + University, Community College & High School Enrolment + Patients in Hospitals and Inmates of Institutions.

The model operates on a Traffic Zone basis where it obtains the first three components from the Traffic Zone model and the Residual Group from "Key Facts" data on Hotels, Universities, Community Colleges, High Schools, Hospitals and Institutions.

General Modelling Comment

In order to reduce the uncertainty associated with projections the department provides low, medium and high scenarios and compares the results of Model No. 4 aggregated up from the Traffic Zone to the Regional Level with the results of Model No's 1, 2 and 3. Differences obviously occur which require a re-evaluation of data assumptions in one or all of the models. In addition, the departmental projections are compared to those made by Statistics Canada, the Ontario Ministry of Treasury and Economics and regional and local municipalities. The Province of Ontario and the regions are presently not modelling household and housing needs or using a Land Use Model (with the in-house Metropolitan Toronto models currently considered by most to be state of the art).

SECTION 2

TRENDS AND ASSUMPTIONS

Population Undercount

One of the problems associated with population projections is the quality of the statistics from which the assumptions are drawn. The best available data source are Census statistics and this source publishes data on the extent of undercounting. Demographers, including the Province of Ontario statisticians, generally use Census year statistics for base year data but may or may not add footnotes on the extent of undercount. For the 1986 Census Statistics Canada estimates the undercount to be 3.21% for Canada, 3.4% for Ontario, and 3.95% for the Census Metropolitan Toronto Area. On the basis of the relationship between Urban Core and Urban Fringe in all CMA'S in Canada, Metropolitan Toronto undercounts could be increased to 4.15% or a population of 91,000 in 1986. There are a number of persons in the hidden (uncounted) population who are not detected by Statistics Canada Reverse Record check and it may be more accurate to estimate the 1986 undercount at approximately 150,000. The undercount in the surrounding four regions would be estimated at approximately 70,000.

It is proposed to represent the missing population in a summary population table, but the undercount is not included in the 1986 base population used in the model as this is not the conventional practise.

Fertility Rates

The Province of Ontario does considerable research on Ontario birth statistics to maintain an historical series and to estimate a projected series of birth rates per 1,000 females by single years of age 15 to 49. In their population series they chose three rates, the low fertility rates declining so that as expressed as total fertility the rate falls from 1.678 in 1986 to 1.300 by 2011, the medium have the same 1986 fertility rates to 2011, and the high increasing from a total fertility rate of 1.678 in 1986 to 2.100 by 2011.

In reviewing these numbers the department accepted the province's basic trend assumptions and adjusted Metropolitan Toronto numbers to reflect a 1986 Total Fertility Rate of 1.561, declining in the low scenario to 1.209 by 2011, and increasing in the high scenario to 1.953 by 2011. This adjustment reflected the lower birth rates in Metropolitan Toronto. The low fertility rate assumptions is a viable scenario but the more probable is the medium constant fertility rate as this reflects the pattern of the last few years. The high scenario with total fertility rate increasing to 1.953 by 2011 is also a probable scenario.

Survival Rates

The Province of Ontario also conducted extensive research on Ontario death rate statistics by single years of age under 1 to 84 and 85 plus by sex to provide a historical series and to project future death rates. While the Province tested two scenarios with different rates, the sensitivity analysis revealed only a marginal impact between the two. Metropolitan Toronto used only one and modified the rates to reflect the Metropolitan characteristics. The assumptions on this variable can be accepted with a fairly high degree of confidence.

Net Migrant Rates

This variable in the model is responsible for most of the growth in the surrounding regions, but in Metropolitan Toronto, since 1971, has been a negative value averaging -10,000 for period 1971-1976, -11,100 for period 1976 to 1981, and -2,900 for period 1981 to 1986. The model used primarily six alternative scenarios labelled A to F and the net migrant assumptions used for the Metropolitan Region and Metropolitan Toronto are summarized below.

TABLE A.1

ANNUAL AVERAGE NET MIGRANT POPULATION

	Metropolitan Region		Metropolitan Toronto
	1987 to 1991	1992 to 2011	1987 to 2011
Scenario A	30,000	25,000	- 6,000
Scenario B	37,250	31,000	- 2,000
Scenario C	44,400	37,000	+ 2,000
Scenario D	35,800	29,800	- 2,000
Scenario E	44,500	37,000	+ 9,000
Scenario F	56,000	46,800	+20,000

Ontario has been experiencing very rapid growth since the recession in the beginning of the 1980's which the provincial demographers feel will not be sustained and the above assumptions reflect that view.

Table A.2 shows the Natural Increase and Net Migrant characteristics for Metropolitan Toronto and the Metropolitan Region.

Labour Force Participation Rates

Statistics Canada and the Province of Ontario has compiled statistics on Labour Force participation rates showing historical patterns and the Province have extrapolated these trends for the projection years. Based on these provincial trends Metropolitan Toronto provided a set of trends adjusted to reflect the conditions for Metro Region and Metropolitan Toronto. The results are set out in Table A.3 which shows little change for males, but a continuing increase in female labour force participation rates.

TABLE A.2

TOTAL NATURAL INCREASE AND NET MIGRATION
METRO REGION, EXTERNAL REGION AND METRO TORONTO
1951 TO 1986

Period		METROPOLITAN REGION			EXTERNAL REGION			METRO TORONTO		
		Natural Increase	Net Migration	Total Growth	Natural Increase	Net Migration	Total Growth	Natural Increase	Net Migration	Total Growth
1951-1956	#	124,576	218,196	342,772	N/A	N/A	N/A	N/A	N/A	N/A
	AAG*	24,915	43,639	68,554						
	%	36.3	63.7	100.0						
1956-1961	#	174,581	216,607	391,188	45,606	84,823	130,429	128,975	131,784	260,759
	AAG*	34,916	43,321	78,237	9,121	16,964	26,085	25,795	26,357	52,152
	%	44.6	55.4	100.0	35.0	65.0	100.0	49.5	50.5	100.0
1961-1966	#	181,852	248,318	430,170	48,727	118,539	167,266	133,125	129,779	262,904
	AAG*	36,370	49,664	86,034	9,745	23,708	33,453	26,625	25,956	52,581
	%	42.3	57.7	100.0	29.1	70.9	100.0	50.6	49.4	100.0
1966-1971	#	159,034	229,034	388,068	46,555	137,187	183,742	112,479	91,847	204,326
	AAG*	31,807	45,807	77,614	9,311	27,438	36,749	22,496	18,369	40,865
	%	41.0	59.0	100.0	25.3	74.7	100.0	55.0	45.0	100.0
1971-1976	#	141,793	92,594	234,387	53,966	142,147	196,113	87,827	(49,553)	38,274
	AAG*	28,359	18,519	46,878	10,794	28,430	39,224	17,565	(9,911)	7,654
	%	60.5	39.5	100.0	27.5	72.5	100.0	229.5	-129.5	100.0
1976-1981	#	106,998	130,617	237,615	38,400	186,111	224,511	68,598	(55,494)	13,104
	AAG*	21,400	26,123	47,523	7,680	37,222	44,902	13,720	(11,099)	2,621
	%	45.0	55.0	100.0	17.1	82.9	100.0	523.5	-423.5	100.0
1981-1986	#	149,293	166,056	315,349	79,490	180,533	260,023	69,803	(14,477)	55,326
	AAG*	29,859	33,211	63,070	15,898	36,106	52,004	13,961	(2,895)	11,066
	%	47.3	52.7	100.0	30.6	69.4	100.0	126.2	-26.2	100.0

*AAG - Average Annual Growth

SOURCE: Province of Ontario
Vital Statistics

Household Size

A number of factors have led to declining household size such as declining fertility rates, increasing proportion of single parent led households, increasing independence of senior citizens and growth of senior citizen population.

Between 1971 and 1976 the City of Toronto added 5,665 household units and lost 79,468 in population as household size dropped from 3.17 p.p.h. to 2.75 p.p.h. In 1986 City of Toronto household size had declined to 2.38 p.p.h. The declining household size is a continuing phenomenon in Western society. In Canada household size has declined continuously since 1881 from 5.33 p.p.h. to 4.09 p.p.h. in 1951 and 2.76 p.p.h. by 1986. This phenomenon occurred continuously regardless of changing fertility rates and economic conditions such as the Great Depression. It represents the complex relationship of socio-economic conditions in evolving Western culture. A decline in household size of 0.1 p.p.h. in Metro Toronto represents a population loss in 1986 of 81,640.

In the post-war period total fertility rate in Ontario increased from 2.469 in 1945 to a high of 3.793 in 1960 and has since declined continuously to 1.678 in 1986. The declining fertility rate has apparently levelled off at the present time. The impact on household size is obvious both

TABLE A.3

LABOUR FORCE PARTICIPATION RATES BY NINE AGE GROUPS AND SEX
CANADA AND ONTARIO 1941-1986
METRO REGION AND METROPOLITAN TORONTO 1961-1986
PROJECTED TO 2021

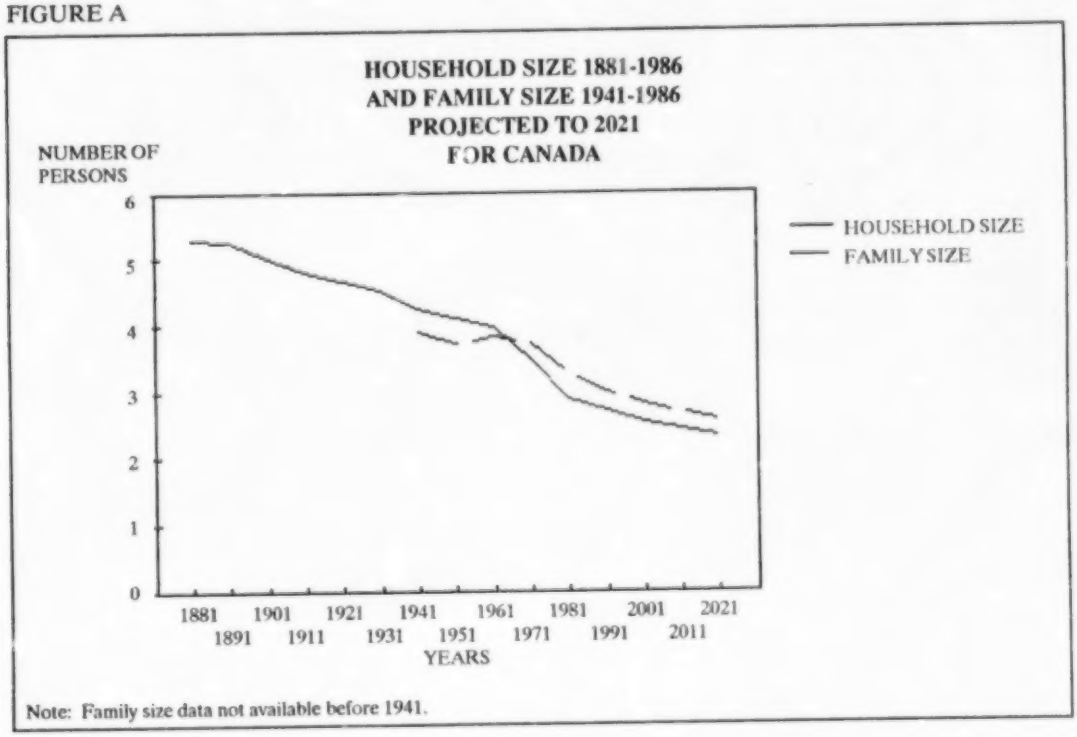
YEAR	15-19	20-24	25-34	35-44	45-54	55-59	60-64	65-69	70+
METROPOLITAN REGION (MALE)									
1961	40.6	89.8	96.4	96.8	95.0	91.0	79.0	44.5	17.5
1971	48.2	89.5	96.0	96.6	95.2	90.0	78.0	41.5	14.5
1976	48.7	86.6	92.3	93.1	91.7	87.5	75.4	35.2	8.2
1981	49.8	95.4	93.7	95.2	93.4	87.6	75.2	31.6	12.6
1986	51.9	93.5	95.9	96.6	94.3	81.0	68.0	29.0	10.5
1991	53.0	92.0	95.9	97.0	95.0	79.0	66.0	29.0	10.5
1996	53.0	92.0	95.9	97.5	95.0	78.0	65.0	29.0	10.5
2001	53.0	92.0	95.9	97.5	95.0	77.0	64.0	29.0	10.5
2006	53.0	92.0	95.9	97.5	95.0	77.0	64.0	29.0	10.5
2011	53.0	92.0	95.9	97.5	95.0	77.0	64.0	29.0	10.5
2016	53.0	92.0	95.9	97.5	95.0	77.0	64.0	29.0	10.5
2021	53.0	92.0	95.9	97.5	95.0	77.0	64.0	29.0	10.5
METROPOLITAN REGION (FEMALE)									
1961	39.5	59.3	40.4	41.6	42.9	38.0	25.0	15.0	6.0
1971	43.6	71.0	55.1	53.3	54.5	48.0	37.0	15.0	6.0
1976	46.2	74.3	61.6	60.4	57.0	46.5	33.5	12.8	3.9
1981	49.5	76.3	71.2	70.4	63.4	49.9	36.0	12.7	3.6
1986	52.2	80.7	80.4	79.9	72.4	52.0	38.0	12.5	3.0
1991	54.0	84.0	82.0	84.0	78.0	55.0	41.0	13.0	3.5
1996	54.0	84.0	85.0	88.0	81.0	56.5	42.5	13.0	3.5
2001	54.0	84.0	86.5	90.0	82.5	57.0	43.0	13.0	3.5
2006	54.0	84.0	87.5	91.0	83.0	57.0	43.0	13.0	3.5
2011	54.0	84.0	87.5	91.0	83.0	57.0	43.0	13.0	3.5
2016	54.0	84.0	87.5	91.0	83.0	57.0	43.0	13.0	3.5
2021	54.0	84.0	87.5	91.0	83.0	57.0	43.0	13.0	3.5
METROPOLITAN TORONTO (MALE)									
1961	40.8	89.8	96.4	96.8	95.0	90.6	79.4	45.2	22.9
1971	47.3	94.0	95.3	96.2	94.8	92.6	81.4	42.3	20.0
1976	47.4	94.1	91.3	92.3	91.0	87.3	76.1	35.9	13.6
1981	47.6	94.3	97.0	95.8	95.0	83.0	72.0	33.3	11.0
1986	49.0	93.6	97.0	96.6	95.0	81.0	70.0	33.0	11.0
1991	50.0	93.0	97.0	97.0	95.0	80.0	69.0	33.0	11.0
1996	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
2001	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
2006	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
2011	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
2016	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
2021	50.0	93.0	97.0	97.5	95.0	80.0	69.0	33.0	11.0
METROPOLITAN TORONTO (FEMALE)									
1961	40.3	60.5	42.1	43.2	44.3	39.6	27.4	15.8	6.3
1971	44.6	61.5	59.1	55.7	56.8	50.5	37.3	16.0	6.5
1976	45.2	75.3	65.0	61.8	58.3	48.3	35.2	13.5	4.0
1981	48.0	78.7	75.0	75.5	67.4	54.7	39.5	14.1	4.2
1986	49.9	82.3	82.0	80.0	73.0	57.0	42.0	14.5	4.0
1991	51.0	84.0	85.0	85.0	79.0	60.0	43.0	14.5	4.0
1996	51.0	84.0	86.5	89.0	82.0	61.5	43.0	14.5	4.0
2001	51.0	84.0	87.5	91.0	83.5	62.0	43.0	14.5	4.0
2006	51.0	84.0	87.5	91.0	83.5	62.0	43.0	14.5	4.0
2011	51.0	84.0	89.0	92.0	84.0	62.0	43.0	14.5	4.0
2016	51.0	84.0	89.0	92.0	84.0	62.0	43.0	14.5	4.0
2021	51.0	84.0	89.0	92.0	84.0	62.0	43.0	14.5	4.0

immediately because of the low number of births, but also long term because of declining fertility rates since 1960 has produced a lower proportion of women in child bearing age 15 to 49.

The increasing number of single parent led households has also resulted in declining household size.

The most rapidly growing segment of the population is senior citizen who represent small household sizes and, in addition, because of relative affluence may choose in many cases to remain in single detached housing, reducing the persons per household size of this housing type significantly over time. Figure A clearly exhibits this trend in household size.

FIGURE A



Note: Family size data not available before 1941.

Land Availability

From 1956 to 1971 Metropolitan Toronto grew by roughly 50,000 annually, approximately half due to natural increase and half due to net migration. By 1976 the picture changed dramatically with an annual growth averaging 7,700, of which natural increase represented 17,600 and a negative net migration of 9,900. Metro Toronto is running out of vacant residential land and many baby boom families have been finding available family housing in the surrounding regions of Peel, York and Durham.

Land prices in essentially fully-developed areas such as Metropolitan Toronto experience added speculative pressure due to the limited amount of available competing land supply.

Housing Completions

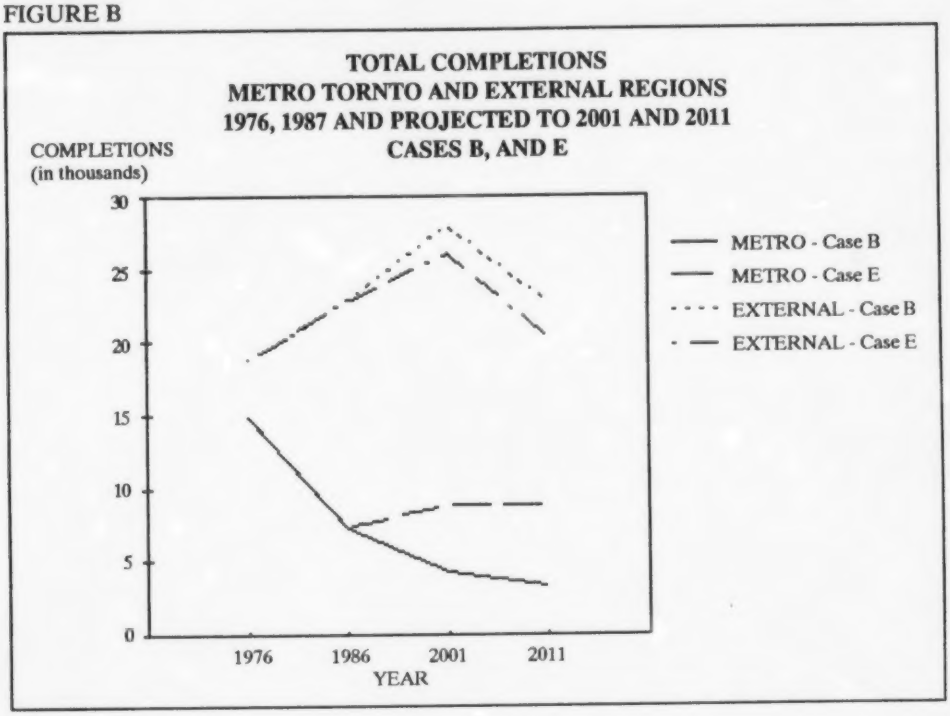
Within Metropolitan Toronto decrease in housing completions reflect the reduced supply of vacant land and this decrease was compensated for in the growth of completions in the four external regions as shown in accompanying Table A.4. Figure B shows for Metropolitan Toronto and the External Regions the historical pattern and projected number of housing completions for Scenario Cases B and E.

TABLE A.4

HOUSING COMPLETIONS BY TYPE
METRO TORONTO AND FOUR SURROUNDING REGIONS
1978 - 1987

		Single Detached	Semi & Duplex	Row-housing	Apartments	Total
MT	78	1,361	1,284	2,942	9,335	14,922
EXTR	78	4,630	2,990	4,294	4,129	16,043
MT	79	2,193	1,192	1,718	8,847	13,950
EXTR	79	7,551	3,932	3,547	5,705	20,735
MT	80	2,410	1,352	1,886	8,210	13,858
EXTR	80	7,172	3,270	1,927	2,659	15,028
MT	81	2,461	1,174	1,149	4,062	8,846
EXTR	81	10,342	3,422	1,462	3,315	18,541
MT	82	1,935	934	1,009	4,753	8,631
EXTR	82	7,664	1,741	1,527	3,423	14,355
MT	83	3,624	199	623	6,299	10,745
EXTR	83	13,037	923	748	2,691	17,399
MT	84	2,603	119	224	5,338	8,284
EXTR	84	12,710	128	1,150	3,938	17,926
MT	85	2,798	174	272	2,926	6,170
EXTR	85	14,013	217	690	1,232	16,152
MT	86	2,645	122	152	4,372	7,291
EXTR	86	20,176	348	855	1,431	22,810
MT	87	1,674	160	208	4,891	6,933
EXTR	87	29,751	857	2,303	8,507	41,418

FIGURE B



Housing Stock Losses

Housing stock losses are made up of two components of losses due to demolitions and the net of conversions and deconversions. In determining the amount of housing completions necessary in any horizon year, the following formula is used:

> Total housing completions for Period = Total households in horizon years + Vacant Units - Total housing units in base year - Housing Stock Losses.

For Metropolitan Toronto the housing stock losses between 1986 and 2011 is estimated at 52,550 for Scenario B, 59,750 for Scenario E, and 66,500 for Scenario F.

Housing Prices

The City of Toronto housing prices increased 161.6% between 1982 and 1988. The corresponding amounts for Metropolitan Toronto, Durham, York and Peel were 149.6%, 136.7%, 134.6% and 122.5%. The largest increases for all regions were in the periods 1986 to 1987 and 1987 to 1988. Table A.5 provides these numbers while Figure C gives a visual picture of these changes over time.

FIGURE C

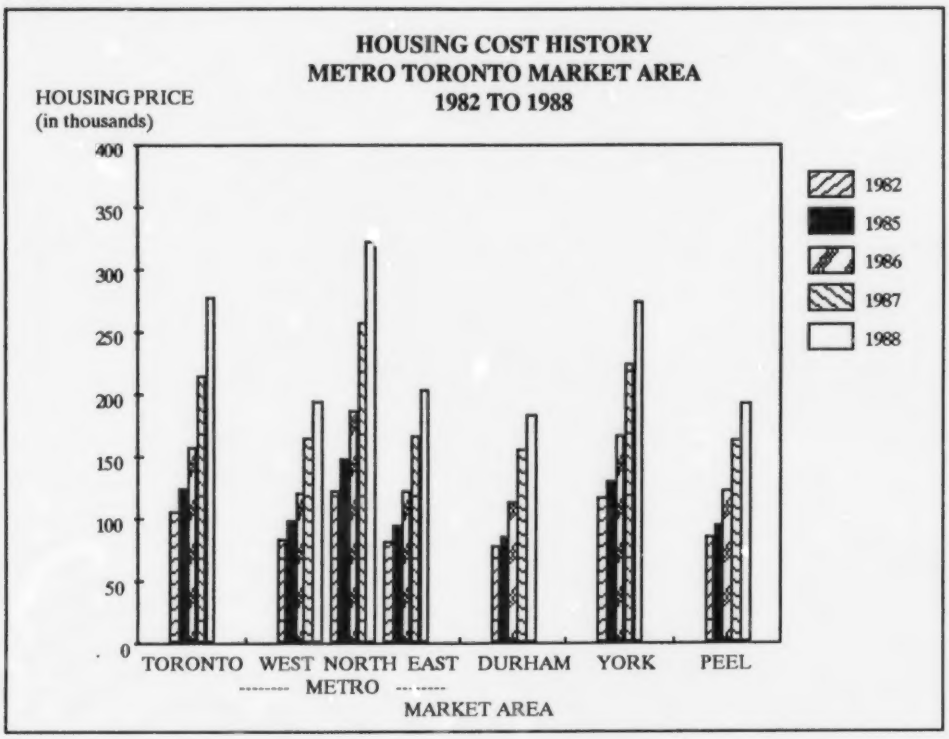


TABLE A.5

AVERAGE HOUSE PRICES 1982, 1985-1988

DISTRICT	1982	1985	82-85 Increase	1986	85-86 Increase	1987	86-87 Increase	1988	87-88 Increase	1982-88 Increase
CITY TOR	107,082	125,106	18,024	158,109	33,003	216,427	58,318	280,131	63,704	173,050
			16.8%		26.4%		36.9%		29.4%	161.6%
MTRO WT	83,877	98,388	14,512	122,299	23,911	166,757	44,458	196,262	29,504	112,385
			17.3%		24.3%		36.4%		17.7%	134.0%
MTRO NT	123,150	149,091	25,941	189,034	39,943	259,368	70,334	323,514	64,146	200,364
			21.1%		26.8%		37.2%		24.7%	162.7%
MTRO ET	82,920	94,975	12,056	123,510	28,535	168,783	45,273	205,148	36,365	122,229
			14.5%		30.0%		36.7%		21.5%	147.4%
REST MT	92,408	107,708	15,300	136,003	28,295	186,578	50,575	227,939	41,361	135,531
			16.6%		26.3%		37.2%		22.2%	146.7%
METRO TORONTO	95,682	111,896	16,214	141,551	29,655	193,792	52,241	238,800	45,008	143,118
			16.9%		26.5%		36.9%		23.2%	149.6%
DURHAM	78,060	86,773	8,713	114,982	28,209	156,038	41,056	184,796	28,758	106,736
			11.2%		32.5%		35.7%		18.4%	136.7%
YORK	117,636	131,514	13,878	168,518	37,004	225,861	57,343	275,994	50,133	158,358
			11.8%		28.1%		34.0%		22.2%	134.6%
PEEL	86,840	95,446	8,606	122,428	26,982	164,916	42,488	193,220	28,304	106,380
			9.9%		28.3%		34.7%		17.2%	122.5%
OUTSIDE REGIONS	95,064	103,473	8,409	134,028	30,555	181,691	47,663	217,305	35,615	122,241
			8.8%		29.5%		35.6%		19.6%	128.6%

Service Availability

In the review being undertaken by the Greater Toronto Co-ordinating Committee (G.T.C.C.), it is hoped to identify what costs are associated with the servicing of the 2011 population targets. At the present time no hard data is available.

SECTION 3

ALTERNATIVE SCENARIOS

General Comment on Scenarios A to F (See Table P.1)

The favoured projection scenario is generally the one that reflects a continuing pattern of the recent past, say the last fifteen years. Scenario B reflects this trend with Scenarios A and C reflecting probable trends on the low and high side of that scenario. In order to achieve certain Metropolitan Toronto objectives, it is considered desirable to achieve significantly higher population targets than Scenario B and the existing Official Plan Target population of 2,500,000 by 2011 was simulated to yield Scenario E. Here again Scenarios D and F were simulated on the low and high side of Scenario E with the Scenario F reaching approximately 3,000,000 by 2011.

All six Scenarios used the same Death (Survival) Rate assumptions.

One factor influencing growth in all scenarios is the aging of the population with a consequent smaller relative proportion of female population in the fertile ages 15 to 49. The impact of this is most significantly evident in the period 2001 to 2011.

After briefly examining all six scenarios only three are given more in depth analysis with respect to Housing, Employed Labour Force, Employment and Journey to Work.

Scenario A

Scenario A adopts for Metropolitan Toronto the low fertility rate which would reflect a resumption of the downward trend since 1970 and a low negative net migrant rate which is just above the average of the last fifteen years. This is a possible scenario that would reflect the trend to smaller family size and in terms of negative net migrants a significant resistance to housing intensification and redevelopment. The result of this scenario is to represent in Metropolitan Toronto a very short term population growth followed by a continuous decline to a population of 2,060,000 by 2011, a loss of 131,200 from the 1986 level.

For the Metropolitan Region, the scenario assumes a low declining fertility rate and an annual net migrant rate of 30,000 for the first five years to 1991 and a 25,000 rate thereafter producing continual growth for all four external regions. The Metropolitan Region would grow from 3,733,100 to 1986 to 4,705,000 by 2011. While this growth is substantial it represents a considerable slowing from recent past growth rates. This would most likely represent a slowing down of immigration from abroad and a strong recovery of Western Canada growth rate.

Scenario B

Scenario B adopts for Metropolitan Toronto the constant 1986 prevailing fertility rate and a negative annual net migrant rate of -2,000 which represents slightly lower net loss than prevailing in the previous five years. The result of these assumptions is to produce a population growth at 81,000 to the year 2001 and then a loss of 69,400 in the next ten years so that by 2011 Metropolitan Toronto population would be 2,204,300. This scenario in assuming prevailing trends represents a probable scenario unless the municipality undertakes significant initiatives to change prevailing development trends.

For the Metropolitan Toronto Region this scenario assumes the constant fertility rate prevailing in 1986 and an annual average net migrant rate of 37,250 for first five years and 31,000 annual average for all subsequent years. The Metropolitan Region would grow from 3,733,100 in 1986 to 5,047,000 by 2011. Examining this growth to 2001 it shows a slightly higher average annual growth than prevailing in the previous fifteen years and this would more closely reflect the pattern since 1986. It would be followed by reduced growth for the following ten years. This scenario reflects basic trends but possibly underestimates the vitality of the southern Ontario economy.

Scenario C

Scenario C adopts for Metropolitan Toronto an increasing fertility rate that would represent a trend to replacement population birth rate and a positive annual average net migrant rate of 2,000 which would reflect a significant municipal intervention to achieve a higher housing completion rate. This is a possible scenario that would result in the population of Metropolitan Toronto growing continuously throughout the projection period by an annual average of 11,500 to 2001 and then by annual average of 1,300.

For the Metropolitan Region this scenario assumes the increasing fertility rate and an annual average net migrant rate of 44,400 for the first five years and 37,000 thereafter. This scenario produces a significantly higher annual average growth both to 2001 and beyond to 2011 than prevailing previous to 1986. This would imply a very significant growth of immigration to Canada and Ontario. The Metropolitan Region would grow to 5,420,300 by 2011.

Scenario D

Scenario D adopts for Metropolitan Toronto the low fertility option and an annual average net migration of -2,000 similar to Scenario B net migrant assumption. This produces a growth of 52,800to 2001 followed by a loss of 105,900 to 2011. While this is a possible scenario it has the same assumption on continuing decrease in family size while supporting the existing housing intensification pattern. Metropolitan Toronto's population by 2011 will be 53,100 lower than the 1986 population.

For the Metropolitan Region Scenario D assumes the low fertility option and an annual average net migrant rate of 35,800 for the first five years and 29,800 for the remaining period. This produces significantly lower annual average growth in the periods to 2011 and beyond than for the previous fifteen years. The Metropolitan Region would grow to 4,435,300. This implies lower immigration to Ontario and less economic growth than currently prevailing.

Scenario E

Scenario E adopts for Metropolitan Toronto the constant fertility rate option and an annual average net migrant rate of 9,000 which represents a strong reversal of the past fifteen year trend. It implies a very significant growth in the present housing redevelopment trend and a significant release of land presently not used for housing. This produces constant growth throughout the projection period and a population of 2,527,400 by 2011.

For the Metropolitan Region this scenario assumes the constant fertility rate option and an annual average net migrant rate of 44,500 for first five years and 37,000 for the subsequent period. This represents a strong growth of immigration to Ontario. The Metropolitan Region population would have an annual average population growth higher than prevailing in the previous fifteen years and a population of 5,237,800 by 2011.

Scenario F

Scenario F adopts for Metropolitan Toronto the increasing fertility rate option and an average annual net migrant rate of 24,000 which applied before 1970. While this rate is not impossible it is probably significantly too high implying possible restrictions on already serviceable lands in the surrounding regions including any intensification or very significantly higher forecast growth in Ontario than is presently envisioned. This produces a population in Metropolitan Toronto of 2,966,900 by 2011.

For the Metropolitan Region scenario F assumes the increasing fertility rate option and an average annual net migrant rate of 52,900 for the first five years and then 44,100 for the remaining period. The very high immigration rate to Ontario that would be required suggests this rate is probably too high. This produces a population of 6,146,400 for Metropolitan Region by 2011.

FIGURE 1

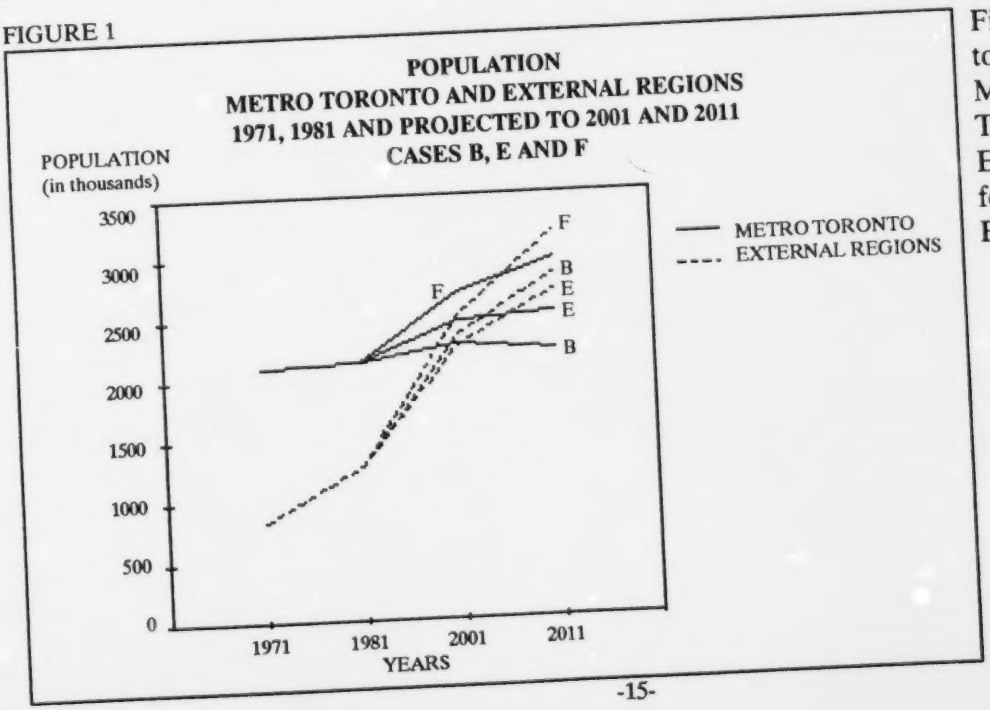


Figure 1 shows total population for Metropolitan Toronto and the External Regions for Scenarios Case B, E and F.

TABLE P.1

POPULATION BY EACH OF FIVE REGIONS IN THE METROPOLITAN TORONTO REGION, 1971-1986 PROJECTED BY SIX ALTERNATIVE CASES TO 2021

	1971	1986	*****CASE A*****		*****CASE B*****		*****CASE C*****		*****CASE D*****		*****CASE E*****		*****CASE F*****	
			2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
METROPOLITAN TORONTO														
Population	2,089,729	2,192,721	2,193,900	2,059,500	2,273,700	2,204,300	2,365,500	2,378,800	2,245,500	2,139,600	2,464,100	2,527,400	2,701,600	2,966,900
Growth to		102,992	1,179	(134,400)	80,979	(69,400)	172,779	13,300	52,779	(105,900)	271,379	63,300	508,879	265,300
Ave Annual Grwth		6,866	79	-13,440	5,399	-6,940	11,519	1,330	3,519	-10,590	18,092	6,330	33,925	26,530
% of Five Regions	71.6	58.7	49.3	43.8	49.2	43.7	49.3	43.9	52.3	48.1	52.1	48.3	51.9	48.3
DURHAM														
Population	214,736	326,179	464,600	544,400	481,100	582,100	498,700	623,300	410,100	458,200	490,300	580,000	540,200	675,000
Growth to		111,443	138,421	79,800	154,921	101,000	172,521	124,600	83,921	48,100	164,121	89,700	214,021	134,800
Ave Annual Grwth		7,430	9,228	7,980	10,328	10,100	11,501	12,460	5,595	4,810	10,941	8,970	14,268	13,480
% of Five Regions	7.4	8.7	10.4	11.6	10.4	11.5	10.4	11.5	9.5	10.3	10.4	11.1	10.4	11.0
YORK														
Population	166,060	350,607	591,800	677,900	612,800	724,900	635,100	776,200	505,500	556,700	579,000	743,000	643,700	870,800
Growth to		184,547	241,193	86,100	262,193	112,100	284,493	141,100	154,893	51,200	228,393	164,000	293,093	227,100
Ave Annual Grwth		12,303	16,080	8,610	17,480	11,210	18,966	14,110	10,326	5,120	15,226	16,400	19,540	22,710
% of Five Regions	5.7	9.4	13.3	14.4	13.3	14.4	13.2	14.3	11.8	12.5	12.2	14.2	12.4	14.2
PEEL														
Population	259,874	592,169	856,400	1,043,200	887,100	1,114,100	918,400	1,194,700	810,700	950,900	855,500	1,012,400	942,500	1,174,600
Growth to		332,295	264,231	186,800	294,931	227,000	326,231	276,300	218,531	140,200	263,331	156,900	350,331	232,100
Ave Annual Grwth		22,153	17,615	18,680	19,662	22,700	21,749	27,630	14,569	14,020	17,555	15,690	23,355	23,210
% of Five Regions	8.9	15.9	19.2	22.2	19.2	22.1	19.2	22.0	18.9	21.4	18.1	19.3	18.1	19.1
HALTON														
Population	189,851	271,389	342,500	380,000	363,000	422,000	377,900	447,300	324,300	339,900	339,000	375,000	379,300	459,100
Growth to		81,538	71,111	37,500	91,611	59,000	106,511	69,400	52,911	15,600	67,611	36,000	107,911	79,800
Ave Annual Grwth		5,436	4,741	3,750	6,107	5,900	7,101	6,940	3,527	1,560	4,507	3,600	7,194	7,980
% of Five Regions	6.5	7.3	7.7	8.1	7.9	8.4	7.9	8.3	7.5	7.6	7.2	7.2	7.3	7.5
METROPOLITAN REGION														
Population	2,920,250	3,733,065	4,449,200	4,705,000	4,617,700	5,047,400	4,795,600	5,420,300	4,296,100	4,445,300	4,727,900	5,237,800	5,207,300	6,146,400
Growth to		812,815	716,135	255,800	884,635	429,700	1,062,535	624,700	563,035	149,200	994,835	509,900	1,474,235	939,100
Ave Annual Grwth		54,188	47,742	25,580	58,976	42,970	70,836	62,470	37,536	14,920	66,322	50,990	98,282	93910
% of Five Regions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE P.2

POPULATION, LABOUR FORCE, EMPLOYED LABOUR FORCE AND EMPLOYMENT FOR METROPOLITAN TORONTO, EXTERNAL SECTOR AND METRO REGION 1971, 1981 AND PROJECTED TO 2011

		METROPOLITAN TORONTO			EXTERNAL FOUR REGIONS			METROPOLITAN REGION		
	Population		2,089,729			830,521			2,920,250	
	Labour Force		1,012,363			360,001			1,372,364	
1971	Employed L.F.		951,621			338,401			1,290,022	
	% ELF of Pop		45.5			40.7			44.2	
	Employed POW		1,006,349			282,810			1,289,159	
	Population		2,137,395			1,280,306			3,417,701	
	Labour Force		1,231,564			708,964			1,940,528	
1981	Employed L.F.		1,157,670			646,426			1,804,096	
	% ELF of Pop		54.2			50.5			52.8	
	Employed POW		1,284,272			539,448			1,823,720	
		CASE B*	**CASE E***	**CASE F***	**CASE B***	**CASE E***	**CASE F***	**CASE B***	**CASE E***	**CASE F***
	Population	2,273,700	2,464,100	2,701,600	2,344,000	2,263,800	2,505,700	4,617,700	4,727,900	5,207,300
	Labour Force	1,316,800	1,431,200	1,554,000	1,364,100	1,316,100	1,437,800	2,680,900	2,747,300	2,991,800
2001	Employed L.F.	1,250,960	1,359,640	1,476,300	1,295,895	1,250,295	1,365,910	2,546,855	2,609,935	2,842,210
	% ELF of Pop	55.0	55.2	54.6	55.3	55.2	54.5	55.2	55.2	54.6
	Employed POW	1,471,500	1,540,900	1,675,900	1,079,100	1,077,900	1,174,500	2,550,600	2,618,800	2,850,400
	Population	2,204,300	2,527,400	2,966,900	2,843,100	2,710,400	3,179,500	5,047,400	5,237,800	6,146,400
	Labour Force	1,302,000	1,501,000	1,727,500	1,637,200	1,555,000	1,779,400	2,939,200	3,056,000	3,506,900
2011	Employed L.F.	1,236,900	1,425,950	1,641,125	1,555,340	1,477,250	1,690,430	2,792,240	2,903,200	3,331,555
	% ELF of Pop	56.1	56.4	55.3	54.7	54.5	53.2	55.3	55.4	54.2
	Employed POW	1,510,300	1,606,600	1,835,900	1,284,800	1,308,900	1,506,000	2,795,100	2,915,500	3,341,900

Scenarios B, E and F (See Tables P.2, P.3, P.4, P.5 and Figures 2 to 5)

There is justifiably always a credibility problem with projections because of the large number of interacting forces that influence the growth of population, labour force, households, housing stock and employment. Existing trend patterns may not continue due to changing political, social and economic forces.

While many scenarios other than the six scenarios could be simulated scenario B, E and F represent opportunities to highlight the impact and implications of policy alternatives for the municipality with respect to infrastructure investment and goals. Analyses of these results may well lead to the simulation of a further scenario reflecting the preferred future options that the Metropolitan Council may decide on.

Scenario B, E and F will also examine the relationship between population, employed labour force, households, housing, journey to work and employment. Here it is important to focus on Metropolitan Toronto and the External Four Regions.

Scenario B, E and F Comparisons

(1) **Employed Labour Force**

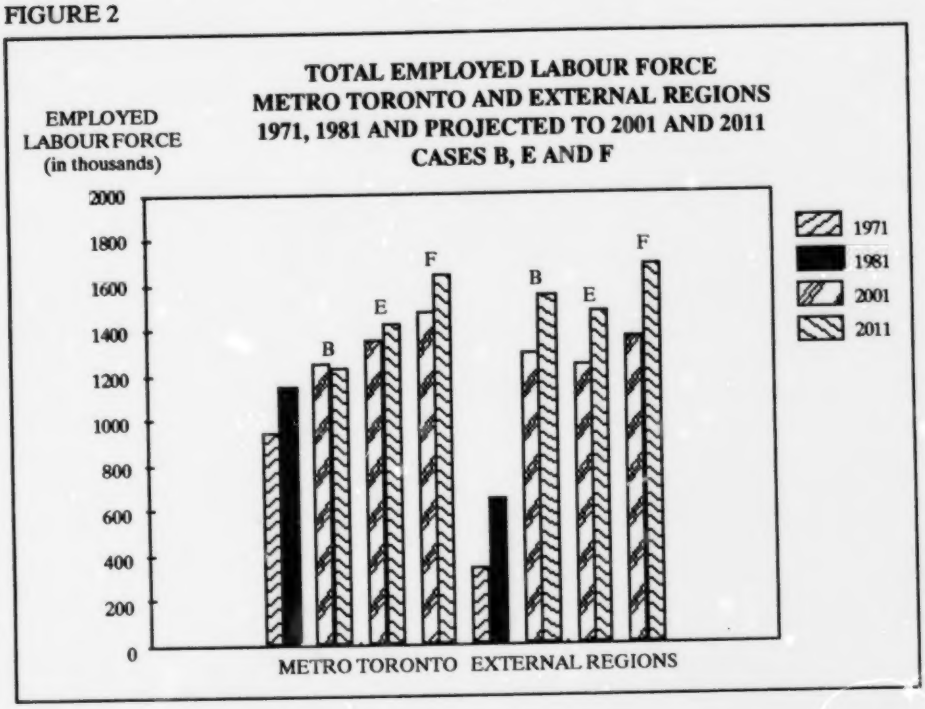
For Metropolitan Toronto the employed labour force in 1981 was 1,157,700 and grew for Case B scenario to 1,251,000 by 2001 and then declined to 1,236,900 by 2011 an overall growth of 79,200 for the total period. The corresponding values for Case E scenario are 1,359,600; 1,426,000 and 268,300 overall growth and for Case F scenario are: 1,476,300; 1,641,100 and 483,400 overall growth.

These numbers become very significant when analysed in conjunction with total employment and the impact of inter-regional journey to work trips.

For the External Regions the employed labour force in 1981 was 646,400 and grew for Case B scenario to 1,295,900 by 2001 and 1,555,300 for 2011, an overall growth of 908,900 for the total period. The corresponding values for Case E scenario are 1,250,300; 1,477,300 and 830,000 overall growth, and for Case F scenario are 1,365,900; 1,690,400 and 1,044,000 overall growth.

Figure 2 shows the relative growth of the employed labour force for Metropolitan Toronto, the External Regions and the Metropolitan Region. It should be noted that for Case B scenario Metropolitan Toronto shows the very large impact a slow growth scenario combined with the aging of the population factor has when compared to the more robust population growth scenarios.

FIGURE 2



(2) Employed Labour Force, Employment and Journey to Work Profile for Metropolitan Toronto

TABLE P.3

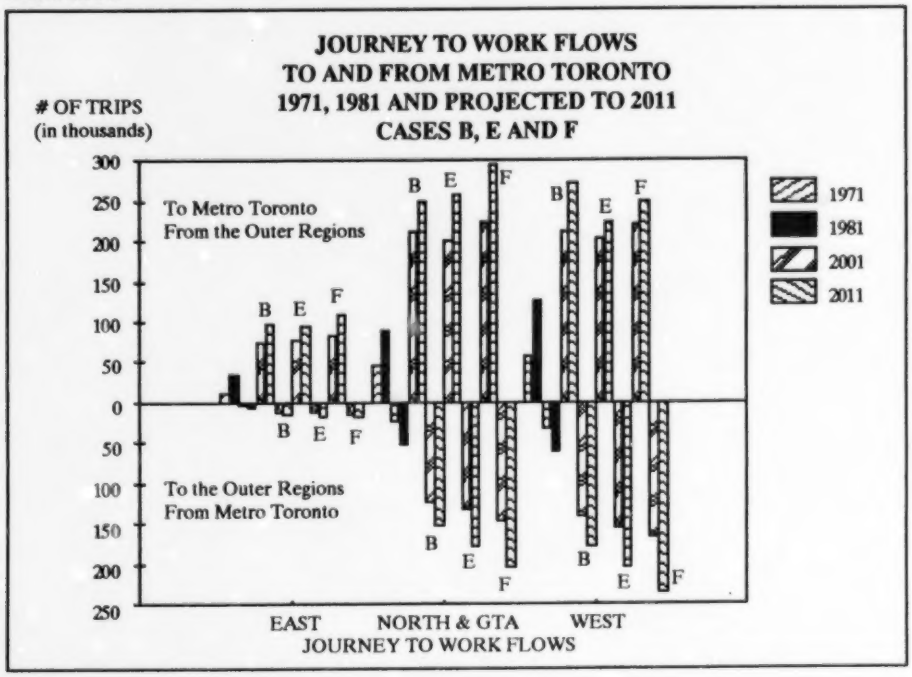
SUMMARY JORNEY TO WORK AND EMPLOYMENT CHARACTERISTICS IN METROPOLITAN TORONTO 1971-81 AND PROJECTED TO 2011

	1971	1981	2001			2011		
			CASE B	CASE E	CASE F	CASE B	CASE E	CASE F
Employed Labour Force	951621	1157670	1251000	1359600	1476300	1236900	1426000	1641100
Employment (P.O.W.)	1006349	1284272	1471500	1540900	1675900	1510300	1606600	1835900
Employed & Living in Area	889619	1033593	972000	1056400	1147100	889300	1025300	1180000
Total Inflow Workers	116730	250679	499500	484500	528800	621000	581300	655900
Total Outflow Workers	62002	124077	279000	303200	329200	347600	400700	461100
Total Net Inflow	54728	126602	220500	181300	199600	273400	180600	194800

The size of the employed labour force in a Region is significant both for the spending power it creates and the amount of inter-regional trips it generates with respect to distribution of employment. The following Figure 3 illustrates the characteristics of these relationships.

The Case B scenario which is characterized by a small growth of employed labour force in Metropolitan Toronto has an even greater absolute total inflow of workers than the Case F scenario which has 69,400 more employment in 2001 and 96,300 more employment by 2011. By 2011 the total inflow of workers would be 39,700 more trips for Case B than Case E.

FIGURE 3



The size of Case F scenarios Employed Labour Force and Employment numbers are significantly larger than Case B and E to provide this scenario with no significant benefits in commuting patterns.

(3) **Households and Housing Stock - Metropolitan Toronto**

Scenarios B, E and F have quantitatively different profiles for the number of households with respect to size of households, number of housing units and the total housing completions to meet this demand.

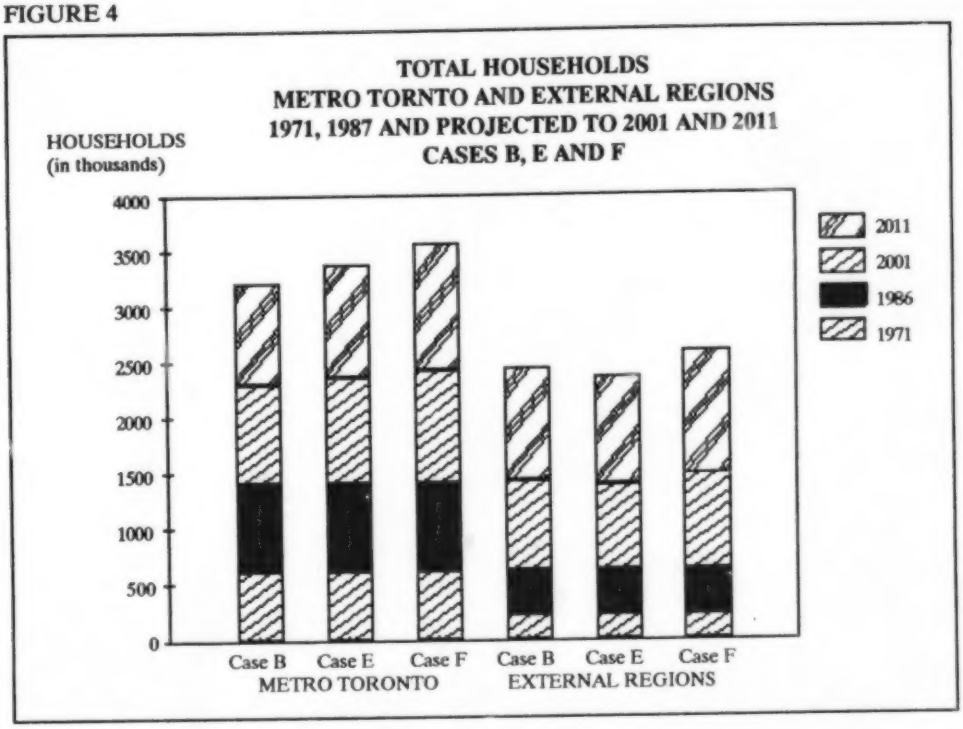
The following table illustrates these differences:

TABLE P.4

METROPOLITAN TORONTO HOUSEHOLDS AND HOUSING STOCK

		Scenario B	Scenario E	Scenario F
1986	Total Households	816,440	816,440	816,440
	Persons Per Household	2.64	2.64	2.64
	Total Units	824,890	824,890	824,890
2011	Total Households	912,200	1,023,500	1,137,100
	Persons Per Household	2.36	2.40	2.55
	Total Stock Losses	52,550	59,750	66,550
	Total Units	935,600	1,049,800	1,166,300
	Total Completions	162,660	284,660	407,960
Annual Average Completions		6,506	11,386	16,318

FIGURE 4



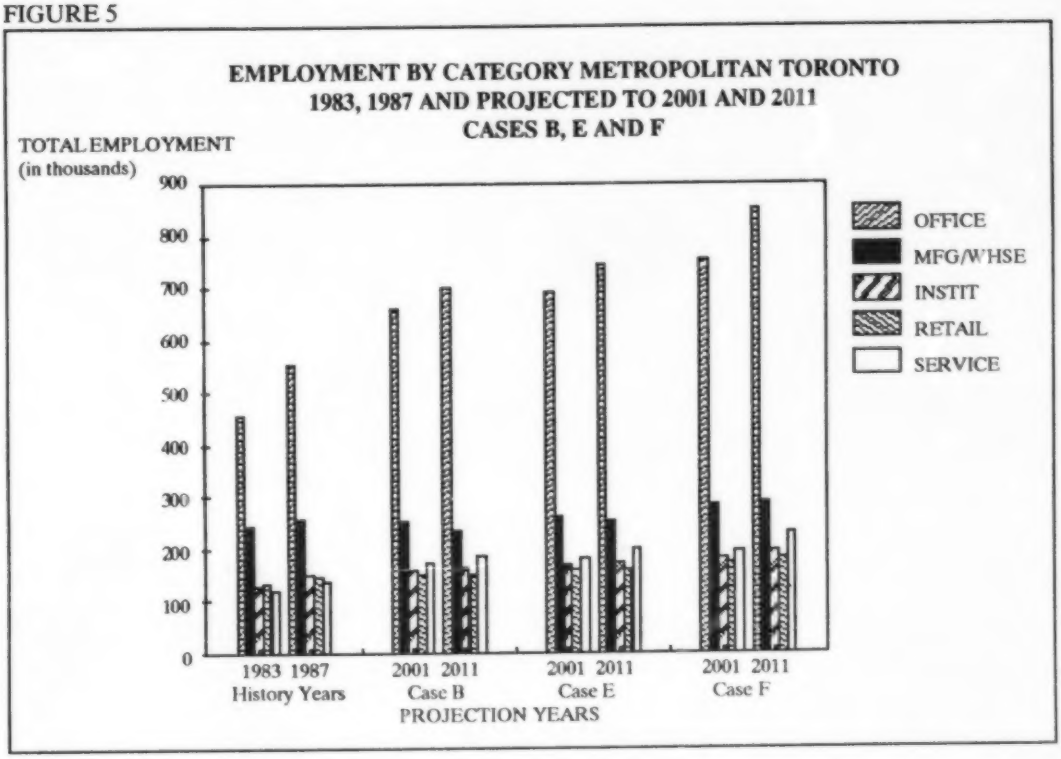
Trends in housing completions in Metropolitan Toronto since 1971, when the extent of vacant land was significantly reduced, have been generally downward and the period 1981 to 1986 averaged 8,224. In 1987 it was 6,933. Scenario B implies there would need to be significant housing intensification and some redevelopment to permit construction of 162,700 units by 2011 or approximately 6,500 units annually.

To achieve Scenario E it would be necessary to obtain significant redevelopment of lands presently not used as residential such as the Downsview Airport site, and key Metropolitan, provincial and private sites. To achieve Scenario F the intensity of redevelopment required would demand significantly higher density than is currently finding community acceptance.

(4) Employment by Category

The changing pattern of employment by category for Scenario B, E and F reflect both the varying size of population base from which the employment is drawn and the intensification and redevelopment goals that would give them direction. Figure 5 and Table P.5 illustrate this changing pattern of employment. Manufacturing and warehousing employment has been generally declining in all municipalities other than Scarborough, however, the more government intervention scenarios of E and F could yield a different pattern. For Scenario B manufacturing employment declines by 5,900 to 2001 and a further 14,900 to 2011 when Scarborough's growth of employment in this period ceases. For Scenario E there is a growth of manufacturing and

FIGURE 5



warehousing employment to 2011 of 11,800 which is subsequently lost by 2021. For Scenario F there is growth of manufacturing employment throughout the projection period though this may be problematic and a steady no growth state is more likely.

Office employment is the major employment growth category as modern technology has shifted industrial growth requirements from manufacturing to service sector industries. For Scenario B office employment obtains 54.9% of total growth to 2001 and 62.1% of total growth to 2011. For Scenario E office employment obtains 52.2% of total growth to 2001 and 57.5% of total growth to 2011. For Scenario F office employments obtains 49.8% of total growth to 2001 and 52.9% of total growth to 2011.

Institutional, Retail and Service employment grows marginally for each of the three scenarios, reflecting recent trends in these scenarios.

Recreational employment will also grow at a slow pace. Footloose employment is predominated by the construction industry which is not comprehensively counted in the department's field surveys due to its dispersed nature. The model attempts to allow for this undercount by assigning a higher proportion of employment to this category to better reflect its proper share.

TABLE P.5

TOTAL EMPLOYMENT IN METROPOLITAN TORONTO BY SEVEN CATEGORIES 1983, 1987 AND PROJECTED BY THREE ALLERNATIVE CASES TO 2011

			CASE 'B'		CASE 'E'		CASE 'F'	
	1983	1987	2001	2011	2001	2011	2001	2011
OFFICE	458,391	553,855	661,058	699,335	692,211	743,934	752,885	850,103
% of TOT	41.6	43.4	44.9	46.3	44.9	46.3	44.9	46.3
No Change		95,464	107,203	38,277	138,356	51,723	199,030	97,218
MFG/WHSE	243,845	257,038	251,147	236,012	262,983	251,063	286,034	286,893
% of TOT	22.1	20.1	17.1	15.6	17.1	15.6	17.1	15.6
No Change		13,193	-5,891	-15,136	5,945	-11,920	28,996	859
INSTIT	130,590	150,124	160,792	162,180	168,369	172,523	183,127	197,144
% of TOT	11.8	11.8	10.9	10.7	10.9	10.7	10.9	10.7
No Change		19,534	10,668	1,388	18,245	4,154	33,003	14,017
RETAIL	133,302	145,273	150,706	150,820	157,808	160,438	171,640	183,335
% of TOT	12.1	11.4	10.2	10.0	10.2	10.0	10.2	10.0
No Change		11,971	5,433	114	12,535	2,630	26,367	11,695
SERVICE	117,789	138,853	172,793	188,500	180,936	200,521	196,795	229.139
% of TOT	10.7	10.9	11.7	12.5	11.7	12.5	11.7	12.5
No Change		21,064	33,940	15,707	42,083	19,586	57,942	32,343
RECREAT'N	16,475	21,695	24,582	25,176	25,741	26,782	27,997	30,604
% of TOT	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7
No Change		5,220	2,887	594	4,046	1,041	6,302	2,607
FTLSE	2,763	9,287	50,430	48,281	52,807	51,360	57,435	58,690
% of TOT	0.3	0.7	3.4	3.2	3.4	3.2	3.4	3.2
No Change		6,524	41,143	-2,149	43,520	-1,447	48,148	1,254
TOTAL	1,103,155	1,276,125	1,471,508	1,510,303	1,540,854	1,606,620	1,675,914	1,835,907
% of TOT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No Change		172,970	195,383	38,795	264,729	65,766	399,789	159,993

Source: Metropolitan Toronto Planning Dept.
Research Division - March 1989

Day Time Population

The day time population for Metropolitan Toronto External Regions and Metropolitan Toronto are summarized for Scenario B, E and F. Projected day time populations can be found in Table P.6.

They are given by the formula:

Day Time Population = Total Population - Employed Labour Force + Employment + Residual Group.

It should be noted that Metropolitan Toronto Day Time Population always has a larger share of the Metropolitan Region than its total Population whereas the converse is true for the External Regions. In 1981 Day Time Population was 66.2% whereas Total Population was 62.5%. For the External Regions Day Time Population was 33.8% and Total Population 37.5% of Metro Region.

TABLE P.6

DAY TIME POPULATION

	1981		SCENARIO B 2001		SCENARIO B 2011		SCENARIO E 2001		SCENARIO E 2011		SCENARIO F 2001		SCENARIO F 2011	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
METROPOLITAN TORONTO														
Total Population	2,137,395	62.5%	2,273,700	49.2%	2,204,300	43.7%	2,464,100	52.1%	2,527,400	48.3%	2,701,600	51.9%	2,966,900	48.3%
Employed LF	1,157,670	64.2%	1,250,960	49.1%	1,236,900	44.3%	1,359,640	52.1%	1,425,950	49.1%	1,476,300	51.9%	1,641,125	49.3%
Employment	1,284,272	70.4%	1,471,500	57.7%	1,510,300	54.0%	1,540,900	58.8%	1,606,600	55.1%	1,675,900	58.8%	1,835,900	54.9%
Residual Group	91,053	76.9%	96,510	65.9%	93,800	61.0%	94,700	66.3%	107,400	65.2%	114,700	68.1%	117,400	63.5%
Day Time Population	2,355,050	66.2%	2,590,750	54.3%	2,571,500	49.4%	2,740,060	56.2%	2,815,450	52.0%	3,015,900	56.0%	3,279,075	51.7%
EXTERNAL REGIONS														
Total Population	1,280,306	37.5%	2,344,000	50.8%	2,843,100	56.3%	2,263,800	47.9%	2,710,400	51.7%	2,505,700	48.1%	3,179,500	51.7%
Employed LF	646,426	35.8%	1,295,895	50.9%	1,555,340	55.7%	1,250,295	47.9%	1,477,250	50.9%	1,365,910	48.1%	1,690,430	50.7%
Employment	539,448	29.6%	1,079,100	42.3%	1,284,800	46.0%	1,077,900	41.2%	1,308,900	44.9%	1,174,500	41.2%	1,506,000	45.1%
Residual Group	27,300	23.1%	50,000	34.1%	60,000	39.0%	48,200	33.7%	57,300	34.8%	53,700	31.9%	67,400	36.5%
Day Time Population	1,200,628	33.8%	2,177,205	45.7%	2,632,560	50.6%	2,139,605	43.8%	2,599,350	48.0%	2,367,990	44.0%	3,062,910	48.3%
METROPOLITAN REGION														
Total Population	3,417,701	100.0%	4,617,700	100.0%	5,047,400	100.0%	4,727,900	100.0%	5,237,800	100.0%	5,207,300	100.0%	6,146,400	100.0%
Employed LF	1,804,096	100.0%	2,546,855	100.0%	2,792,240	100.0%	2,609,935	100.0%	2,903,200	100.0%	2,842,210	100.0%	3,331,555	100.0%
Employment	1,823,720	100.0%	2,550,600	100.0%	2,795,100	100.0%	2,618,800	100.0%	2,915,500	100.0%	2,850,400	100.0%	3,341,900	100.0%
Residual Group	118,353	100.0%	146,510	100.0%	153,800	100.0%	142,900	100.0%	164,700	100.0%	168,400	100.0%	184,800	100.0%
Day Time Population	3,555,678	100.0%	4,767,955	100.0%	5,204,060	100.0%	4,879,665	100.0%	5,414,800	100.0%	5,383,890	100.0%	6,341,985	100.0%

For 2011, Metropolitan Toronto's Day Time Population for Scenarios B, E and F is 49.4%, 52.0% and 51.7% of Metro Region; the Total Population for the same scenarios is 43.7%, 48.3% and 48.3%, respectively, of the Metro Region total. The External Regions Day Time Population for 2011 for Scenarios B, E and F is 50.6%, 48.0% and 48.3% of Metro Region and the Total Population is 56.3%, 51.7% and 51.7%, respectively, of Metro Region.

Full Count Population

In order to estimate the population at any given time, it is necessary to make allowance for the population missed, uncounted, in the census years. The following table represents the compensated population estimates for Scenario B, E and F.

TABLE P.7

FULL COUNT POPULATION

		SCENARIO B		SCENARIO E		SCENARIO F	
	1986	2001	2011	2001	2011	2001	2011
METRO TORONTO							
Original Pop	2,192,721	2,273,700	2,204,300	2,464,100	2,527,400	2,701,600	2,966,900
Undercount	147,279	166,300	165,700	168,900	172,600	198,400	203,100
Full Count Pop	2,340,000	2,440,000	2,370,000	2,633,000	2,700,000	2,900,000	3,170,000
EXTERNAL REGIONS							
Original Pop	1,540,344	2,344,000	2,843,100	2,263,800	2,710,400	2,505,700	3,179,500
Undercount	69,656	76,000	76,900	76,200	76,600	84,300	90,500
Full Count Pop	1,610,000	2,420,000	2,920,000	2,340,000	2,787,000	2,590,000	3,270,000
METRO REGION							
Original Pop	3,733,065	4,617,700	5,047,400	4,727,900	5,237,800	5,207,300	6,146,400
Undercount	216,935	242,300	242,600	245,100	249,200	282,700	293,600
Full Count Pop	3,950,000	4,860,000	5,290,000	4,973,000	5,487,000	5,490,000	6,440,000

It should be noted that the uncounted population represents a very rough estimate of the under enumeration in the census year, so the extrapolation of this number for the projection years is equally approximate. It is important, however, to assign some value to this undercount rather than to ignore the problem posed by this uncertainty.

SECTION 4

POLICY IMPLICATIONS

Policy Implications

This section discusses various policy implications facing Metropolitan Toronto depending on the target population chosen. The current Official Plan is designed to co-ordinate infrastructure and services for a population of 2.5 million at 2001. It sets a framework for local municipal actions and the investment decisions of the private sector.

The choice of an alternative target population to 2.5 million has fundamental consequences for transportation, housing, servicing, employment, environmental and financial aspects of Metropolitan Toronto.

Scenario B - 2,060,000 Persons by 2011

Scenario B is the continuation of current demographic and building activity rates. The overall implication for policy as expressed in the Metropolitan Official Plan is that the policies be adjusted downward to reflect a relatively constant future population in overall numbers, but proportionately older on average than Scenarios E & F, a smaller part of the overall region, and a more auto oriented system with longer travelling distances to work. The following highlights the important issues and implications in various policy areas:

(1) Transportation

- substantial growth in work trips to Metro and work trips from Metro to other Regions;
- substantial increases in long distance commuting trips;
- Central Area destined trips can be accommodated through upgraded commuter rail;
- non-Central Area trips will be highly auto oriented --leading to increased auto congestion across boundary/both directions--points to need for better local cross-boundary transit;
- lends to severe congestion in suburban areas of Metro--therefore need for improved suburban rapid transit;

- focus of T.T.C. growth will be oriented to servicing cross-boundary trips to non-Central Area locations.

(2) Housing

- Scenario B assumes 1987 building activity (6,933 units) will be the 22 year average--if the latest 1988 and 1989 rate of 10,000+ starts per year continues, policies to constrain housing growth would have to be considered if 2.0 population to be reached in 2011;

- policy focus would be on social, non-profit increases, finding sites for Housing Company;

- provincial support to other Regions would have to increase;

- less need for active housing program for key sites, no great increases in supply due to Metropolitan Toronto initiatives.

(3) Services

- water supply adequate--replacement and adjustment to Humber sewage system necessary--the Don system is under study;

- extra provincial spending on sewage and water in Regions will be needed;

- less waste to landfill as a result of recent initiatives and constant population;

- social services geared to older population, further decreases in number of school children.

(4) Employment

- longer trips to work, making it harder for low and moderate income earners to keep working in Metro.

- radial pattern concentrating in the Central Area and relatively small employment growth does not help promote sub centres.

(5) Environment

- greater growth in Regions--stretched to provide services, consuming additional agricultural land, pressure on Metro watershed and its headwaters;

- Metro's neighbourhoods (other than the growth in the Central Area, Lake shore, North Yonge and Scarborough Town Centre) will experience continuing declines in number of persons.

(6) Financial

- constant per capita growth at best;
- no justification for expenditures on the basis of population growth.

Scenario E - 2,500,000 Persons

This scenario involves a strong building trend for housing coupled with increased average annual migration rates into the Metropolitan Region. Substantial growth in cross-boundary trips into Metro (but less than Case B) coupled with increased boundary trips from Metro to the Regions adds to acute suburban congestion. Under this scenario, the increased population would be made up of workers and their families predominantly, keeping better balance in our age structure and household incomes.

Various policy implications are set out below:

(1) Transportation

- internal T.T.C. constant, growth in cross-boundary trips on T.T.C. to Central Area could lead to pressures for improved T.T.C. to Central Area but with a significant portion offset by the continuing residential development in the Central Area;
- above could be overcome if cross-boundary Central Area trips secured by increased GO Rail services;
- outbound direction growth lends to more congestion and need for improved cross-boundary local transit.
- will still have severe suburban auto congestion; can be relieved by building more roads.
- suburban rapid transit will be very important to secure internal and cross-boundary trips.

(2) Housing

- 284,000 new units required, an increase by 34% in our current stock;
- the first policy implication is where are these units built,

. Key Sites
- Downsview
- Central Area
- North Yonge, Scarborough, Kipling/Islington, York City Centres
- Metro, Provincial, Federal, Local landholdings

. significant Development along Metro Arterials, Main Streets

. some redevelopment of non-viable industrial lands - St. Lawrence Square

. requires supportive provincial and federal funding on housing, transit and infrastructure;

. active Metro housing program in addition to Metro Toronto Housing Co. Ltd. activities;

. increased housing supply helps affordability problems.

(3) Services

. upgrading sewage works on the Humber/Black Creek watersheds, possibly the Don;

. waste disposal - part of the joint regional initiative;

. social services increases roughly proportionate to increased population;

. increases in school age population with differing implications likely for public and separate school systems.

(4) Employment

. more balance across Metro;

. increased employment (20%) will help subcentre strategy;

. better journey to work/home;

. policy implications for industrial areas vs. centres vs. housing.

(5) Environment

- relatively less urban sprawl in the Region, reduced loss of agricultural land, headwater area changes;
- pressure to complete park system and maximize public uses of waterfront;
- economic incentives to redevelop underutilized sites coupled with better urban design = better urban environment;
- 10% increased densities - richer more vibrant communities.

(6) Financial

- increased population and impact on per capita grants;
- greater case for growth related provincial/federal grants;
- increased assessment over scenario B.

Scenario F - 3,000,000 Persons

Under this scenario all growth related factors have to be working, a strong economy, high immigration, increased provincial and federal spending, co-operation of the municipalities, ratepayers and private sector. Building activity would have to average 3 times the 1987 rate. Growth in the Regions would have to be maintained within their current urban envelopes. Better balance of ages and incomes would result. Various policy implications are set out below:

(1) Transportation

- increases in both population and employment within Metro result in more inbound, outbound and internal trips compared to Case B;
- increases in all areas compared to 1981;
- severe problems for all transportation services;
- higher utilization of intra-Metro transit services (i.e. T.T.C.) - more services required;
- road congestion in suburban areas near boundaries;
- need for road and transit improvements within Metro and across boundaries.

(2) Housing

- 400,000 units required, an increase of 48% in our current stock;
- where would these units be built?
  - all Key Sites -Downsview, Centres, Woodbine, Metro, Provincial, Federal lands,

    -major redevelopment along Metro and local arterials,
  - redevelopment of industrial sites, pressure on parkland, north east Scarborough,
  - major obstacles to private construction would have to be removed, or revamped, i.e. rent control or new government housing building incentive put in place,
  - major funding to build non-profit portion of the 400,000;
- increased supply improves affordability.

(3) Services

- upgrading of sewage works on Humber, Don and parts of Don - expansion to treatment plants;
- increased school population;
- more income earners to support overall population;
- providing social housing, assisting moderate income homebuyers significant.

(4) Employment

- greater number of in Metro work trips, and assuming increases in service, better travel time;
- good support for centres throughout Metro;
- more offices in industrial areas.

(5) Environment

- most compact Metropolitan Region better environmental quality - more sustainable urban form;
- great pressure on parks and natural areas;
- best urban design impact;
- increased suburban densities - more diversity in communities for activities and businesses.

(6) Financial

- increased assessment, per capita grants;
- best case for provincial infrastructure spending.

SECTION 5

RECOMMENDATIONS

Recommendations:

It is recommended that:

(1) Scenario E be adopted as the target population, labour force, housing and employment to be served;

(2) this report be circulated to Metropolitan Departments, Area Municipalities and the Toronto Transit Commission, for their comments, specifically with regard to implementation implications;

(3) the Metropolitan Plan Review incorporate Scenario E confirming the 2.5 million persons anticipated population in the Official Plan for the Urban Structure Metropolitan Toronto, and extending the timeframe to reach this target from the year 2001 to the year 2011;

(4) this report be forwarded to the Task Force on Provincial Population Projections;

(5) the appropriate Metropolitan Officials be authorized to take the necessary action to give effect thereto.